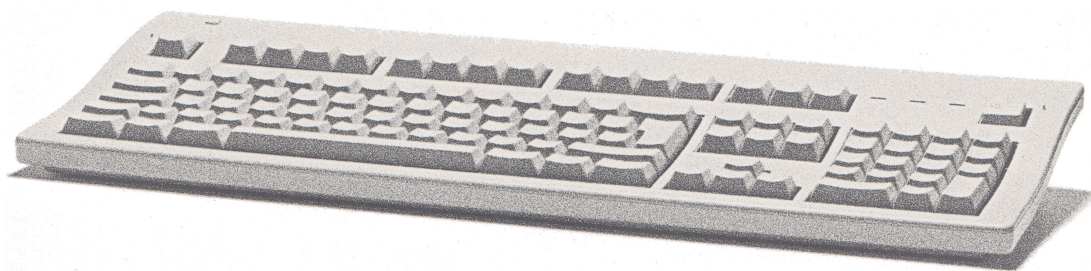




# Apple® Extended Keyboard II Owner's Guide





# Apple® Extended Keyboard II Owner's Guide



This manual is copyrighted by Apple or by Apple's suppliers, with all rights reserved. Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Apple Computer, Inc. This exception does not allow copies to be made for others, whether or not sold, but all of the material purchased may be sold, given, or lent to another person. Under the law, copying includes translating into another language.

The Apple logo is a registered trademark of Apple Computer, Inc. Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

© Apple Computer, Inc., 1989  
20525 Mariani Avenue  
Cupertino, CA 95014-6299  
(408) 996-1010

Apple, AppleLink, the Apple logo, Apple IIGs, and Macintosh are registered trademarks of Apple Computer, Inc.

Apple Desktop Bus and MacroMaker are trademarks of Apple Computer, Inc.

AppleCare is a registered service mark of Apple Computer, Inc.

Microsoft and MS-DOS are registered trademarks of Microsoft Corporation.

UNIX is a registered trademark of AT&T Information Systems.

Linotronic is a registered trademark of Linotype Co.

POSTSCRIPT is a registered trademark, and Illustrator is a trademark, of Adobe Systems Incorporated.

Varityper is a registered trademark, and VT600 is a trademark, of AM International, Inc.

---

# Contents

Radio and television interference      iv

## **Apple Extended Keyboard II      1**

Looking at the keyboard      3

Adjusting the angle of the keyboard      4

Connecting the keyboard to your computer      6

Turning on your computer      9

Using the function keys      10

Using the function key template      11

Caring for your keyboard      13

Service and support      14

Specifications      15



---

## Radio and television interference

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple’s instructions—it may cause interference with radio and television reception.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation.


You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer or one of the peripheral devices.

If your computer system does cause interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit from the television or radio. (That is, make certain the computer and the television or radio are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with a coaxial cable lead-in between the antenna and the television.

If necessary, consult your authorized Apple dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet, prepared by the Federal Communications Commission: “How to Identify and Resolve Radio-TV Interference Problems” (stock number 004-000-00345-4). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

### Important

This product was tested for FCC compliance under conditions that included the use of shielded cables and connectors between system components. It is important that you use shielded cables and connectors to reduce the possibility of causing interference to radios, television sets, and other electronic devices. For Apple peripheral devices, you can obtain the proper shielded cables from your authorized Apple dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance. 

---

# Apple Extended Keyboard II

THIS OWNER'S GUIDE TELLS YOU HOW TO SET UP AND CARE FOR YOUR APPLE® Extended Keyboard II. In this manual, "Macintosh® computer" refers to the entire family of Macintosh SE and Macintosh II computers but excludes the Macintosh Plus.

You can use the Apple Extended Keyboard II to communicate with Apple Macintosh or Apple IIgs® personal computers. The keyboard has several features which might be familiar to you if you've used other Apple keyboards, including

- standard typewriter-style layout of alphanumeric keys to make typing easier
- numeric keypad for fast number entry
- convenient cursor-control key arrangement for moving the cursor without using the mouse
- Power On key for the Macintosh II (Reset key for the Apple IIgs)
- function keys for use in MS-DOS and UNIX® applications (you can use these keys in the Macintosh Operating System, too)
- special keys that work in applications running in alternative operating systems

The Apple Extended Keyboard II also has two new features to make typing more convenient. These features are

- a slide lever that lets you adjust the angle of the keyboard
- a reversible template to label what each function key does

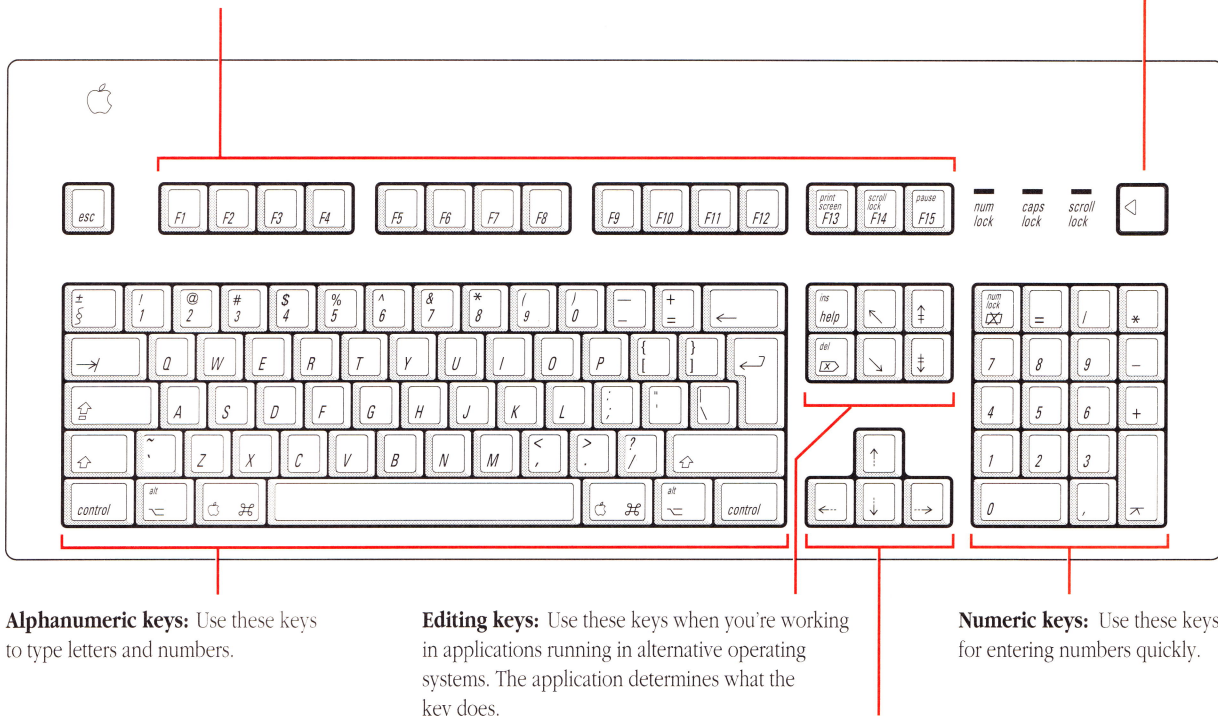
# Looking at the keyboard

Figure 1 shows you the layout of the Apple Extended Keyboard II and explains the different kinds of keys.

■ **Figure 1** The Apple Extended Keyboard II

**Function Keys:** Use these keys when you're working in applications that run in alternative operating systems, such as UNIX or MS-DOS. These keys work in the Macintosh operating system, too. Using the MacroMaker™ utility, you can create your own macros and then assign them to specific function keys. See the *Macintosh Utilities User's Guide* for information about MacroMaker.

**Power On key:** Use this key to turn on computers in the Macintosh II family. This is the **Reset** key for the Apple IIGS.



**Cursor control keys:** Use these keys (in some applications) to move the cursor without using the mouse.

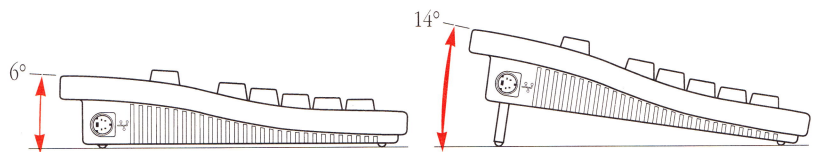
---

## Adjusting the angle of the keyboard

The Apple Extended Keyboard II is ergonomically designed to make using the keyboard more comfortable for you. (**Ergonomics** is the study of how a machine's design affects the people using it.) Just as people like their chairs and work surfaces at different heights, they also have preferences for different keyboard angles. Adjusting the angle of the keyboard can help prevent your hands and wrists from becoming tired when you're doing a lot of typing.

The **keyboard angle** indicates how far the keys are tilted from a horizontal work surface. This angle is measured in degrees. The Apple Extended Keyboard II adjusts from a minimum of 6 degrees to a maximum of 14 degrees. Figure 2 shows this range.

■ **Figure 2** The keyboard angle



As a starting point, try setting the angle to about 10 degrees (this is probably the angle you're used to if you've been working with other keyboards). After you've used the Apple Extended Keyboard II for a while, you can change the angle to fit your preferences.

It's easier to set the angle before you connect the keyboard to your computer. Follow these steps to change the angle:

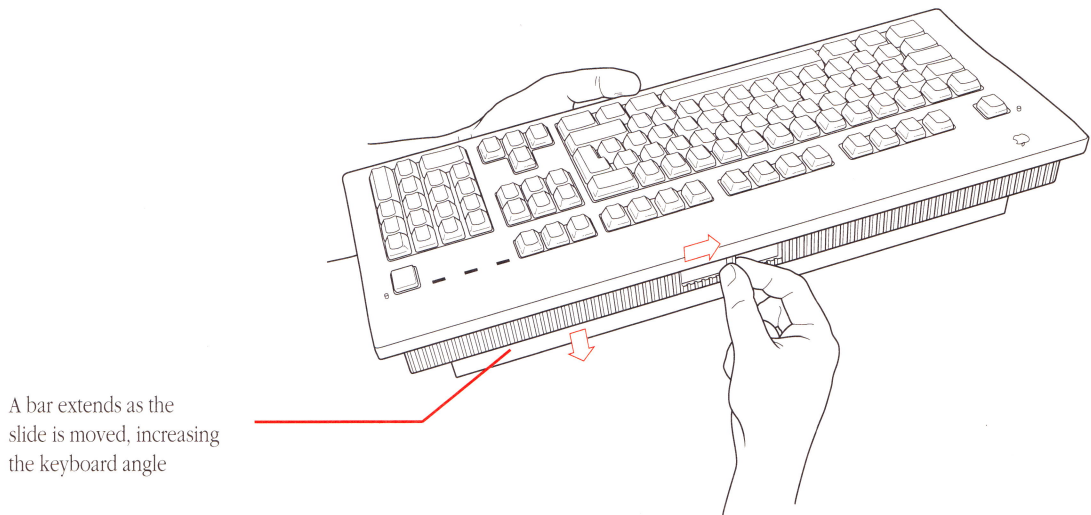
**1. Sit with the back of the keyboard facing you.**

The slide you use to adjust the keyboard angle is inside the rectangular recess on the back of the keyboard.

**2. Move the slide to change the keyboard angle.**

As you move the slide to the right, a small bar extends from the bottom of the keyboard, changing the angle of the keyboard.

■ **Figure 3** Adjusting the keyboard angle

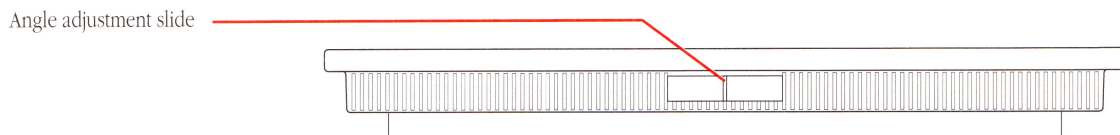


A bar extends as the slide is moved, increasing the keyboard angle

You'll hear a clicking sound as the slide moves through the settings. Release the slide to lock the keyboard into a specific angle.

For an angle of 10 degrees, place the slide in the center of the recess as shown in Figure 4.

■ **Figure 4** Setting the angle at 10 degrees



If you want to change the angle later, move the slide to the left to decrease the angle or to the right to increase the angle.

---

## Connecting the keyboard to your computer

Your Apple Extended Keyboard II is an **Apple Desktop Bus™ (ADB)** device. (A **bus** is a pathway along which information is transmitted from various devices to your computer. The Apple Desktop Bus is a special path for input devices). You may have several ADB devices, such as a mouse, a trackball, or even another keyboard.

If you have an Apple IIgs or you don't want to connect your mouse through your keyboard, skip step 3 in the following instructions.

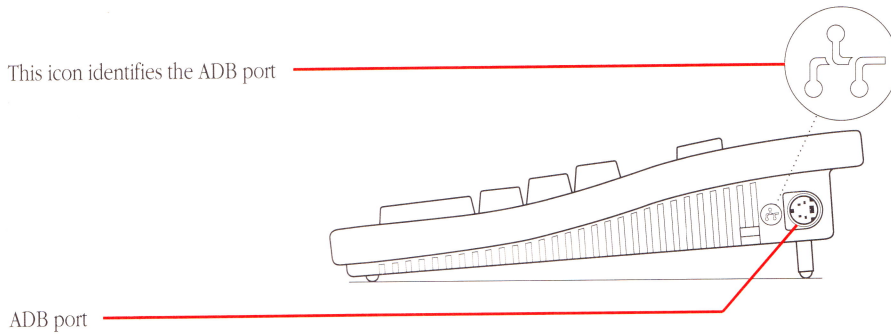
Be sure you have the unwrapped keyboard cable within easy reach. Follow these steps to connect the keyboard to your computer:

- 1. If your computer is on, turn off the power.**
- 2. Turn the keyboard so a side is facing you.**

The keyboard has two ADB ports, one on each side. The ports are identified by the ADB icon shown in Figure 5.



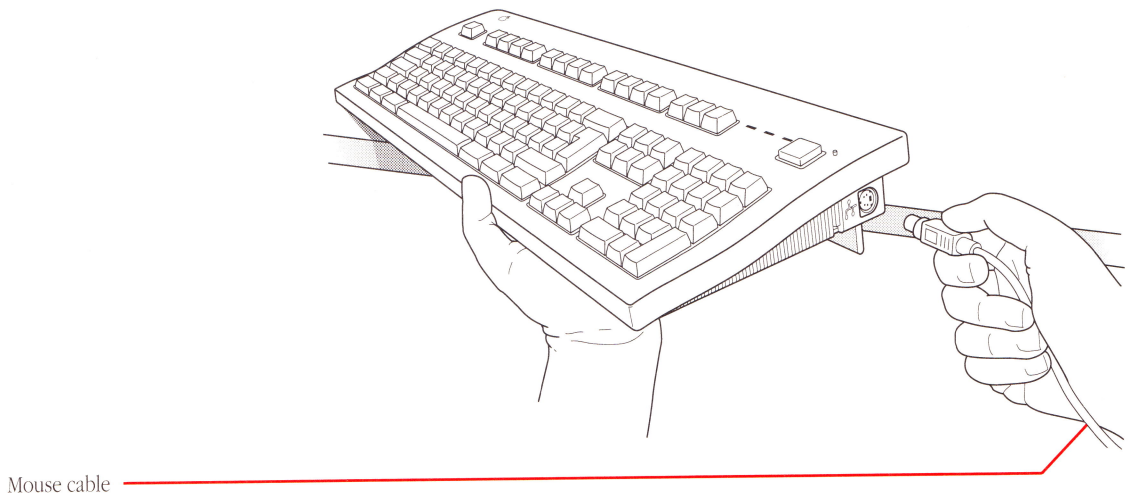
■ **Figure 5** The keyboard's ADB port



**3. Plug the mouse cable into one keyboard port.**

If you're right-handed, plug the mouse cable into the port on the right side.  
If you're left-handed, plug it into the port on the left.

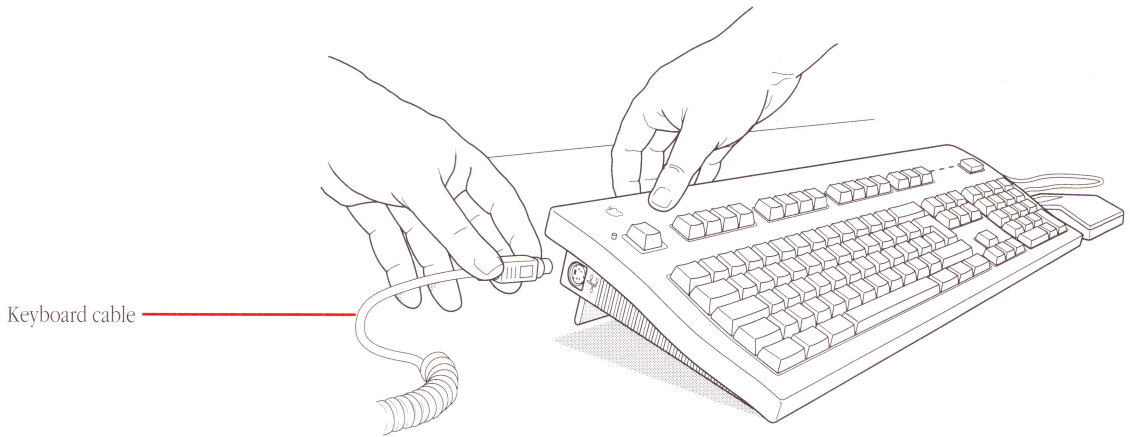
■ **Figure 6** Attaching the mouse cable to a keyboard port





4. **Plug the end of the keyboard cable closest to the coil into the other keyboard port.**

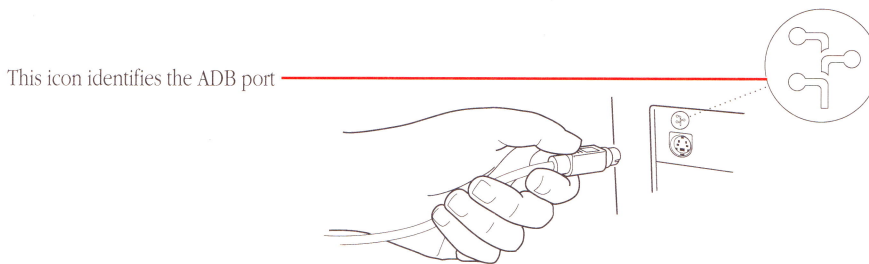
■ **Figure 7** Attaching the keyboard cable to a port



5. **Plug the other end of the keyboard cable into an ADB port on the back of your computer.**

The ports are identified by the ADB icon shown in Figure 8.

■ **Figure 8** Plugging the keyboard cable into the ADB port



Connecting one ADB device to another is called **daisy-chaining**. Using daisy-chaining, you can connect up to six ADB devices to two ADB ports. See the owner's guide that came with your computer for more information on using ADB ports.

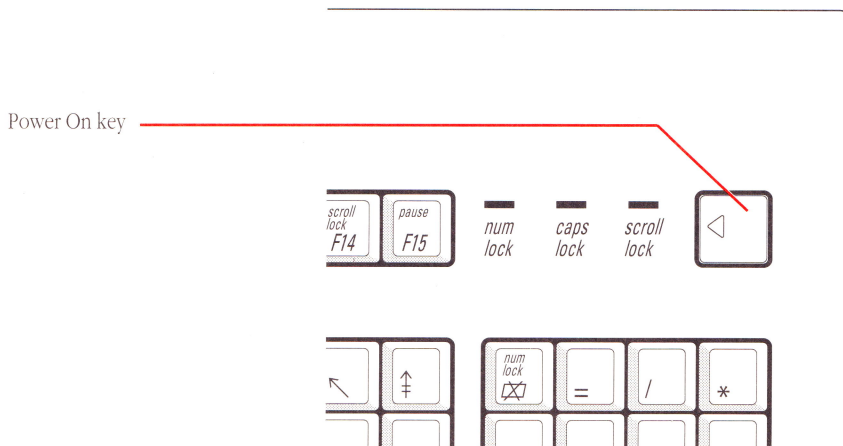
---

## Turning on your computer

How you turn on your computer depends on the type of system you're using with your Apple Extended Keyboard II:

- To turn on your Macintosh SE, use the power switch on the back of your computer. See your *Macintosh SE Owner's Guide* for more information.
- To turn on your Apple IIgs, use the power switch on the back of your computer. See the owner's manual that came with your computer for more information.
- ❖ *To reset your Apple IIgs:* The key marked with a triangle in the upper-right corner of your keyboard (Figure 9) is the Reset key for your system. See the owner's manual that came with your computer for more information on using this key.
- To turn on your Macintosh II, find the key marked with a triangle in the in the upper-right corner of your keyboard, as shown in Figure 9. Press this key once.

■ **Figure 9** Power On key



This **Power On key** provides a quick way to start your Macintosh II. You don't use this key to turn off the power; see the *Macintosh System Software User's Guide* for information about turning off your computer.

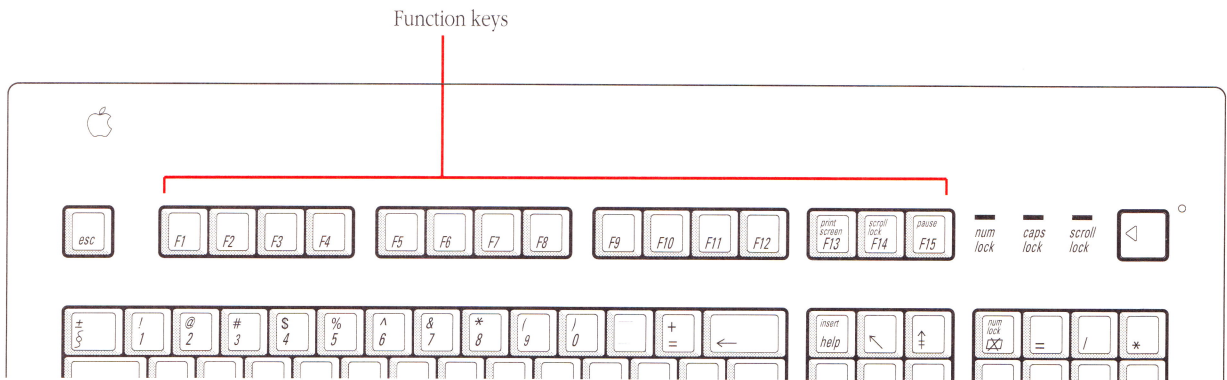
---

## Using the function keys

If you've worked in other operating systems (such as MS-DOS and UNIX), you're probably already familiar with using function keys. You can use the function keys on the Apple Extended Keyboard II whenever you're working in applications that have tasks assigned to function keys.

The Apple Extended Keyboard II has fifteen **function keys**. See Figure 10.

■ **Figure 10** Function keys



The function keys work in the Macintosh Operating System, too. Function keys let you use **macros**—a series of characters or commands that are put into effect with a single keystroke. Creating macros for tasks you do often can save you a lot of typing. You assign functions to the keys using the MacroMaker utility on the Utilities disk that came with your computer. For more information about MacroMaker, see your *Macintosh Utilities User's Guide*.

---

## Using the function key template

Function keys can perform different actions, depending on the application you're using. If you frequently switch between several applications, the multiple uses for the same function key can get confusing. To help you keep track of the function keys, the Apple Extended Keyboard II comes with a reversible plastic template. The template labels four function keys (F1 through F4) as *undo*, *cut*, *copy*, and *paste*. You can add your own labels to the template to help you identify what a function key does in different applications.

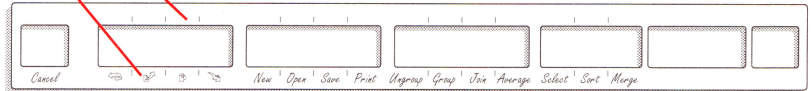
To use the template follow these steps:

### 1. Using a pencil, write a label for each function key.

Write in pencil so you can erase and change the labels if you need to. You can put two sets of labels per side, one along the top of the template, and another row along the bottom as shown in Figure 11. It's best to use each row for a single application.

■ **Figure 11** Writing labels on the template

Use one row for  
each application



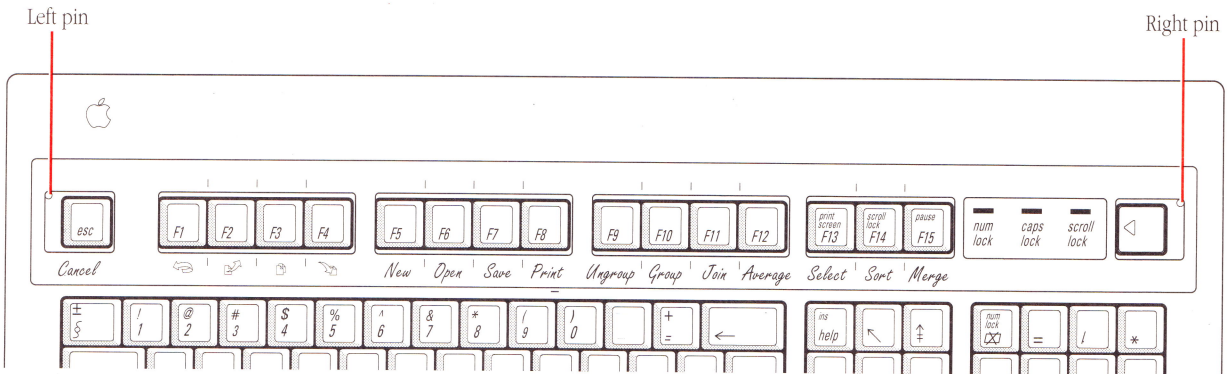
---

▲ **Warning** Do not use pens or permanent markers to label the template. Write all labels using a number 2 (soft) pencil. ▲

## 2. Place the template over the function keys.

Hook the ends of the template over the pins at the far right and far left of the function key row as shown in Figure 12.

■ **Figure 12** Placing the template on the keyboard



- ❖ *Changing the labels:* Remove the template from the keyboard before changing the labels. As you erase the old labels, be sure to keep all eraser residue away from the keyboard. Write the new labels before putting the template back in place.

---

## Caring for your keyboard

The Apple Extended Keyboard II is designed to be rugged and durable; however, handle the keyboard with reasonable care.

Here's a list of reminders to help you avoid damaging your keyboard:

- Turn off the power before cleaning. Clean the keyboard with a damp (not wet), lint-free cloth.
- Don't set cups, glasses, or anything containing liquids beside or near the keyboard. Spilling a liquid into any electronic instrument can damage the circuitry.
- Keep all metal objects, such as paper clips or staples, away from the keyboard. If something does fall between or under the keys, it may damage the circuitry.
- Remove the function key template before entering or changing labels.

If something should cause your Apple Extended Keyboard II to stop working, do not try to open the case or repair the keyboard yourself. Return the keyboard to an authorized Apple dealer for repair or replacement.



## **LIMITED WARRANTY ON MEDIA AND REPLACEMENT**

If you discover physical defects in the manuals distributed with an Apple product or in the media on which a software product is distributed, Apple will replace the media or manuals at no charge to you, provided you return the item to be replaced with proof of purchase to Apple or an authorized Apple dealer during the 12-month period after you purchased the software. In addition, Apple will replace damaged software media and manuals for as long as the software product is included in Apple's Media Exchange Program. While not an upgrade or update method, this program offers additional protection for up to two years or more from the date of your original purchase. See your authorized Apple dealer for program coverage and details. In some countries the replacement period may be different; check with your authorized Apple dealer.

**ALL IMPLIED WARRANTIES ON THE MEDIA AND MANUALS, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO TWELVE (12) MONTHS FROM THE DATE OF THE ORIGINAL RETAIL PURCHASE OF THIS PRODUCT.**

Even though Apple has tested the software and reviewed the documentation, **APPLE MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO SOFTWARE, ITS QUALITY, PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS SOFTWARE IS SOLD "AS IS," AND YOU, THE PURCHASER, ARE ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND PERFORMANCE.**

**IN NO EVENT WILL APPLE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE SOFTWARE OR ITS DOCUMENTATION,** even if advised of the possibility of such damages. In particular, Apple shall have no liability for any programs or data stored in or used with Apple products, including the costs of recovering such programs or data.

**THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED.** No Apple dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## **WARNING**

This equipment has been certified to comply with the limits for a Class B computing device, in accordance with the specifications in Subpart J of Part 15 of FCC rules. See instructions if interference to radio or television reception is suspected.

**DOC Class B Compliance** This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

**Observation des normes—Classe B** Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe B prescrites dans les règlements sur le brouillage radioélectrique édictés par le Ministère des Communications du Canada.

---

## Service and support

To help you get the best performance from your system, Apple Computer, Inc., has established a worldwide network of full-support authorized Apple dealers. If you need answers to technical questions or information about product updates, your authorized Apple dealer can help you. Apple's Technical Support organization backs each dealer and international technical support group via an AppleLink® network, a state-of-the-art on-line electronic information service, to ensure prompt, reliable assistance.

Your dealer has the latest information on new hardware and software products as well as product updates. If you wish to upgrade your system, your dealer can help you select compatible components.

If your product requires service, your local authorized Apple dealer is trained and ready to support you. Apple provides factory-quality parts and the latest available diagnostic equipment to the more than three thousand authorized Apple service centers throughout the world. Apple guarantees parts and warranty labor. (Regulations in each country determine the length of warranty. Some restrictions may apply, depending on the country of original purchase.)

If for some reason you cannot return to the authorized dealer from whom you purchased your system, go to the nearest service location. For the location nearest you, in the United States or Canada, call or write to one of the following:

Apple Computer, Inc.  
Attn: Customer Relations  
20525 Mariani Avenue  
Cupertino, CA 95014  
USA  
(800) 538-9696

Apple Canada, Inc.  
7495 Birchmount Road  
Markham, Ontario, L3R 5G2  
Canada  
(800) 268-7796 or  
(800) 268-7637

For locations in other countries, either call the Apple headquarters in your country or write to the United States address given above.



Apple also offers service options designed to meet your needs. One of these is the AppleCare® Service Agreement (available in the United States, Canada, and Australia only), which extends full warranty coverage up to three years. Your AppleCare contract will be honored at any participating authorized Apple dealer within the country of purchase—an added benefit if you relocate. Local service means time saved in getting your Apple system back to work.

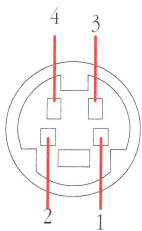
You can purchase AppleCare at any time, but it's a good idea to purchase it with your system, or at least before your warranty has expired, to avoid an inspection at your own expense.

---

## Specifications

<b>Number of keys</b>	Total of 105, including 60-key alphanumeric keypad (47 printing keys) 18-key numeric keypad (16 printing keys) 4-key inverted-T style cursor control keypad 15 programmable function keys 6 special screen-editing keys 1 Escape key 1 Power On /Reset key
<b>Height</b>	Rear: 41 ±1 mm (1.61 ±0.04 in.) Front: 19 ±1 mm (0.75 ±0.04 in.)
<b>Width</b>	475 ±1 mm (187.01 ±0.04 in.)
<b>Depth</b>	195 ±1 mm (76.77 ±0.04 in.)
<b>Weight</b>	1.8 ±0.1 kg (4.8 ±0.3 lb.)
<b>Keyboard angle</b>	Maximum: 14 ±0.5 degrees Minimum: 6 ±0.5 degrees
<b>Height of home row</b>	Maximum: 34 ±1 mm (1.34 ±0.04 in.) Minimum: 28 ±1 mm (1.10 ±0.04 in.)
<b>Distance between keys</b>	19 ±1 mm (0.75 ±0.04 in.)
<b>Total key travel</b>	3.5 ±0.3 mm (0.14 ±0.01 in.)

<b>Peak tactile force</b>	0.6 ± 0.1 N
<b>Travel to peak tactile force</b>	1.4 ± 0.3 mm (0.05 ± 0.01 in.)
<b>Contact closure</b>	2.0 ± 0.3 mm (0.08 ± 0.01 in.)
<b>Connectors</b>	2 Apple Desktop Bus (ADB) 4-pin mini-circular
<b>Indicators</b>	3 LEDs
<b>Cable length</b>	1.9 m (6 feet) with coiled cord
<b>Power requirements</b>	LEDs off: 5 mA 1 LED on: 18.5 mA
<b>Storage temperature</b>	−40°C (−90°F) to 47°C (116.6°F)
<b>Operating temperature</b>	10°C (50°F) to 40°C (104°F)
<b>Operating humidity</b>	95% maximum, noncondensing



Apple Desktop Bus port

### ADB port pin assignments

<u>Pin number</u>	<u>Signal name</u>	<u>Signal description</u>
1	ADB	Data
2	PWRON	Power on
3	+5v	+5 volts DC
4	GND	Signal ground

Total length of all cable not to exceed 5 meters (16 feet)

## THE APPLE PUBLISHING SYSTEM

This Apple® manual was written, edited, and composed on a desktop publishing system using Apple Macintosh® computers and Microsoft® Word. Proof pages were created on the Apple LaserWriter® printers; final pages were printed on a Varityper® VT600™. Line art was created using Adobe Illustrator™ and typeset on a Linotronic® 300.

Text type and display type are Apple's corporate font, a condensed version of Garamond. Bullets are ITC Zapf Dingbats®.



**Apple Computer, Inc.**

20525 Mariani Avenue  
Cupertino, California 95014  
(408) 996-1010  
TLX 171-576

Z030-1700-A